

4. Lamarckism

Lamarckism is the theory of *Organic Evolution*. It was proposed by *Lamarck*. It is also called *inheritance of acquired characters*. It explains *the origin of new species*.

Lamarckism has the following salient features:

1. Complex living organisms are formed from simple living organisms.
2. The environment does not remain constant. It changes.
3. The change in the environment influences the plants and animals.
4. The changes in the environment provide new needs for the organisms.
5. In response to the new needs, organisms develop new structures.
6. Variations in organisms arise through the effects of *use* and *disuse*.
7. The continuous use makes a structure greatly developed and disuse makes the structure atrophied.
8. *The new structures developed by the organisms in response to the environment* are called *acquired characters*. These acquired characters are transmitted generation after generation and by this way a new species is produced.

Principles of Lamarckism

Lamarckism consists of four principles. They are as follows:

1. *Internal urge of organism.*
2. *Environment and new needs.*

3. *Use and disuse theory.*

4. *Inheritance of acquired characters.*

1. Internal Urge of Organism

Animals and *plants* have the ability to grow and increase in size to attain the maximum size. Not only the body but also each and every part of an organism increases in volume. According to *Lamarck*, this increase in size is due to an internal urge and inherent ability of the animal itself. It is due to desire, some sort of an internal urge of the animal that the size increases.

2. Environment and New Needs

According to *Lamarck*, environment plays an important role in evolution. Animals co-operate with the environment for their survival. They develop adaptive characters to live comfortably in the environment. Whenever there is a change in the environment, the animals also respond to the changes. The changes in the environment bring about new structures or characters. Thus *Lamarck* strongly believed that changes in the environment bring about the development of new characters.

Lamarck quoted many examples for the influence of environment on animals. He observed differences in the same species of plants grown in different environmental conditions.

When plants are growing on fertile soils, they are healthy and luxuriant; the same plants growing on unfertile soil are weak and thin. Here the nature of the soil and other environmental factors bring about changes in the plants.

3. Use and Disuse Theory

When an organ is put to greater and constant use, that particular organ develops well; at the same time, when an organ is not used for a long time, it gets reduced and in due course it degenerates and disappears completely from the organism. This phenomenon is called use and disuse theory.